NEW ENGLAND FARMER.

Published by JOHN B. RUSSELL, *at No. 52 North Market Street, (at the Agricultural Warehouse).*—THOMAS G. FESSENDEN, *Editor.*

VOL. VII. BOSTON, FRIDAY, JANUARY 23, 1829. No. 27.

INTERNAL IMPROVEMENT.

RAILWAYS.

(By the Editor.)

(Continued from page 202.)

In order to form a correct opinion of the practicability and expediency of making railways in the United States, it may be well to take a concise view of the subject as exemplified by the practice of Great Britain. Having ascertained what has been done, and made a correct allowance for varying circumstances, we may be the better able to form an estimate of what may and ought to be accomplished with regard to contemplated improvements.

The Edinburgh Encyclopedia asserts that railways are so numerous that it would be difficult even to enumerate the various works of this description, which have been executed throughout the United Kingdom, as railways are universally employed at all the principal coal and iron works, in situations altogether inaccessible to a communication by water. In not a few instances they have been constructed by joint stock companies, and sometimes by individuals as public thoroughfares.

The only public railway of extent, in Scotland, is that between the manufacturing town of Kilmarnack and the harbor of Troon; which, agreeably to act of Parliament is open to all upon payment of a certain toll. This extensive work, like those of the Duke of Bridgewater's in England, was executed at the sole expense of the Duke of Portland, for the improvement of his Ayrshire estates. The Troon railway is about ten miles in length, and is laid down with two sets of cast iron tracks, of the description technically termed plate-rails. It crosses the river Irvine by a stone bridge of four arches, each of forty feet span, and the whole line forms an inclined plane falling towards the shipping port at the rate of about one sixteenth of an inch perpendicular in one yard horizontal. In its track it encounters a difficult pass through Shaulton moss; and towards the harbor the uniform line of draught is preserved by an embankment of about two miles in length.—This work with the great pier founded in about eighteen feet water in the lowest tides, together with the graving docks and whole establishment at Troon, were executed agreeably to a design of the late Mr Jessop's, and with the *coal fittings*, in the neighborhood, are understood to have cost about £150,000. The other railways in Scotland, which may be mentioned as of extent or interest are those of the Carron Company, the establishment of which is understood to have reduced the average monthly expenditure for carriage from £1200 to £300; the coal works of the Earls of Elgin and Mar, in Fife and Clackmannanshires; Sir John Hope, of Penkie; Mr Wauchope, of Edmonstone, and Mr Cadell, of Cockenzie, in Mid Lothian; Mr Dickson and others in Lanarkshire; and Mr Taylor and others in Ayrshire. These are edge-railways, and such of them as have lately been laid, are chiefly of malleable iron.

In England at all the coal and manufacturing districts, railways are employed for facilitating and economising the operations. In the counties of Northumberland and Durham alone, the coal workings and railways require a separate map to show their position. Here the system of *wayleave* was first introduced, a source of revenue in the form of a tonnage, paid to landed proprietors, for liberty to pass through their grounds with a line of railway to the shipping port. In Cumberland, perhaps, the most interesting railways are those of the under-ground works of Lord Lonsdale, at Whitehaven. In the great manufacturing and commercial county of Lancashire, railways are very numerous. A highly interesting work also occurs at the Duke of Bridgewater's under-ground works at Worseley, about seven miles from Manchester. In Darby, Stafford, and Warwickshires, railways are numerous, some of which are connected with inclined planes, and are works of considerable extent, as those of little Eaton and Butterly. At Mansfield in Nottingham there is a public railway nine miles in length, which was designed and executed by Mr Josias Jessop. In Shropshire, and indeed along the whole course of the Severn, railways have been introduced with the best effect. Those of Coalbrookdale, and its neighborhood, where Reynolds, the famous iron master, first introduced the use of cast iron for railways and bridges, are highly interesting. At Chaltenham in Gloucestershire, Loughborough in Leicestershire, and Wandsworth in Surry, and other situations there are public railways varying in extent, from seven to twenty-six miles, and differing in their line of draughts, according to the situation of the country.

South Wales, perhaps, more than any other country of similar extent abounds with valuable minerals, which from the inaccessible nature of the country must have been in a great measure, shut up, but for the introduction of the railway system. Here a large uninhabited district of sterile mountains may be said all at once to have become the seat of populous towns and villages.—Such for example is Merthyr-tydvill, of which the Marquis of Bute is Lord of the Manor. When the late Mr Crashey, the great Iron master of this district, established himself here about the year 1765, the parish of Merthyr-tydvill contained a very scanty population; but at the census of 1811, it had increased to 11,104 inhabitants; and in that of 1821 it mounted up to 17,404. The railways of this district are numerous, and many of them extensive, particularly in Glamorgan, Monmouth, Caermarthen, and Brecknockshires.—Among these may be mentioned the Sirhowy railway, which, with its branches and collateral lines, extends upwards of thirty-five miles. It crosses the Ebbwy by a bridge of 15 arches; forms a connexion with the Wye, and has had the effect of reducing the price of coals throughout the higher parts of Radnor and Herefordshire. The Cardiff and Merthyr-tydvill railway is about 27 miles in length; and it is worthy of remark, that both a common road and a navigable canal are established between these places. At the great iron works of Merthyr-tydvill, Dowlais, Penydurran, and others in that neighborhood, much use is made of railways. Here wagons, loaded with minerals are transported upon an inclined plane, upon a horizontal platform by steam, in a very simple and expeditious manner. Connected with the Neath canal there are several railways with inclined planes of considerable magnitude, and at Swansea, one is laid to the village of Oystermouth, a distance of seven miles. On this line a stage coach plies daily with passengers, which indeed appears to be its chief trade. In Caermarthenshire there is a railway to the harbor of Lanelly, which extends about fifteen miles into the interior coal country.

In the mineral districts of North Wales, connected with the shires of Caernarvon, Denbigh, and Merioneth there are several extensive railway works. That belonging to the slate quarries at Pennrhyn is about six miles in extent, and is laid out in four successive horizontal tracks which communicate with each other by means of three inclined planes, varying in length from 130 to 300 yards. On these the work is so arranged, that in passing down the loaded wagons, the empty ones are taken up by a track rope, which winds round the axle of a *brake wheel*. On the more level parts of the road the wagons are drawn by horses.—The Pennrhyn railway may now be considered as a pretty old establishment; and its good condition affords an example of the stability of the edge-railway, having been in (1824) use for seventeen or eighteen years.

In Ireland there are yet but few railways, excepting those of the Harbor-works of Dublin, and at quarries and other works of that description, which from their temporary nature are not generally calculated to afford good specimens of the art; but in the progress of improvement in that fine country we may look forward to the period when such works will be more generally established.

In connexion with the railways mentioned above, we may mention several extensive surveys, which have been made for works of this description. One of these by Mr Telford, extends across the country from Glasgow to Berwick upon Tweed, a distance of 125 miles, with a rise of 636 feet to the water-shade in the parish of Dolphingstown. The survey from Berwick to Kelso, by the late eminent Mr Rennie, has been farther continued up Gala Water to Dalkeith, Edinburgh, and Leith, by Mr Stevenson, who has also made a survey upon the opposite side of the Frith of Forth, on an uninterrupted level from the river Tay through the great valley of Strathmore to Aberdeen, with branch lines to the ports of Stonehaven, Montrose, Arbreath, Dundee, and Perth, comprising upwards of one hundred miles of level road. A collateral line has likewise been traced by the same engineer from the confluence of the rivers Earn and Tay, through the county of Fife to the westward of Dumferline, with various branch lines communicating with the Frith of Forth. An extensive road is now making of 36 miles in length, and 4 sets of tracks, connecting Liverpool with Manchester by a railway, *notwithstanding the water communications already established between these places by the river Mersey and the Irwell canal.* It may further be mentioned, that after looking forward for many years for a canal across the country between the Tyne and the Solway, (a track of all others the most desirable for such a work,) a

railway is now contemplated, even by those who were most anxious that such improvement should be a navigable canal. These operations or certain compartments of them, may be expected ere long to be carried into effect, as the benefits of the railway system are every day more apparent. A public railway is now completed between the Forth and Clyde canal, and the extensive coal field in the vicinity of Monk-land canal, near Airdrie. *(To be continued.)*

FOR THE NEW ENGLAND FARMER.

Mr Fessenden—I take the liberty of transcribing the following, which I have not seen in the Farmer. The first is invaluable, and should be preserved or remembered by every farmer.

"*Hoven in cattle.*—As the distension is chiefly occasioned by carbonic acid gas, any substance which will combine with that gas will reduce it. Such a substance is readily found in ammonia (hartshorn) a spoonful of which, infused in water, and forced down the animal's throat, completely removes the distension." *Annales de Chimie.* Soda and Potash will combine as readily with carbonic acid gas as ammonia; and, therefore, if dissolved in water, may be efficaciously and safely administered.

Loudon's Magazine for August, mentions the establishment of two new agricultural schools on the Continent; one in France, by the Abbe du Pratt, the other in Bavaria, by Baron Von Closin. In the latter, to which is attached an experimental farm of 400 acres, youths from 10 to 15 years of age, are taken and maintained, clothed, and taught, for five years, for the value of their labor, and 50 florins (about $22) entrance money. The example of Fellenburgh is effecting wonders in Europe. When shall we appreciate and profit by it?

Potato Mortar.—M. Cadet de-Vaux, found mortar of lime and sand, and also that made of clay, greatly improved in durability, by mixing boiled potatoes with it.—*Bul. Un.*

Plants raised from seeds which have been crossed, always bear the form of the mother, but take the colors of the male parent. Fewer seeds are produced by art than nature alone, and the impregnated flowers are less visited by bees than others.—*Annales Hort. Soc. Paris.*

The Monsieur Pear, a new variety, found in the woods, attracts much attention in France, on account of its large size, beauty of appearance, and excellent keeping qualities, remaining good till after Easter. Messrs Bose and Vilmorin consider this fruit to come very near, if not to be, the pear St Lezin.—*Id.*

Albany, Jan. 15, 1829.

HORSES.

The following remarks upon horses, are copied from the publication of an eminent farrier in Europe; and we think them worth the perusal of farmers generally.

The pulse of a horse in health, is from 36 to 40 beats in a minute, and may be easily felt by pressing the finger gently upon the temporal artery, which is situated about an inch and an half backwards from the corner of the eye.

Horses have not the faculty of puking, or even belching wind out of their stomachs, and therefore are peculiarly subject to wind cholic.

When a horse has been overridden, bloody spots may be seen in the whites of his eyes.

A limber dock is sure evidence of a limber back; that is, a weak one.

A horse that is hardy and good for business has a short back bone, which terminates forward of the hip bones.

A decoction of white oak bark will kill botts by tanning them, and they will become so shrivelled, as scarcely to be discernable when discharged.

The principal signs of a good horse are these—the eyes set apart in the head, and large and bright; the quirl high in the forehead; one or two in the neck is a good sign; the neck well set on high; the shoulder blades pretty high, and converging to a point; the breast full and large, and so also behind; the body round, for flat bodied or slab sided horses are weak natured; the dock stiff, going wide behind, for if the gambols knock together, it shows that the horse is feeble; chewing the bit when provoked is a good sign.—It is a Spanish proverb, that the dapple grey will sooner die than tire.—*N. Y. Gaz.*

Considerations on the processes employed by Nurserymen for obtaining better sorts of Fruits, and on the means by which Nature appears to accomplish the same result. By M. Poiteau.

The author observes, it is but rarely that improved varieties of our cultivated fruits originate with nurserymen; they are generally the production of chance, found in the woods or hedges, or from distant corners of provinces, where the finer sorts are hardly known, and where the sorts they have are mismanaged or neglected. That "like begets or produces like," has long been considered a law of nature among animals and some vegetables; but this law is not always uniform, especially among domesticated animals or highly cultivated plants. Yet, on this principle, our nurserymen have acted in their endeavors to obtain better kinds of fruit, by sowing seeds of the best, in the hope that they would raise something still better. It is well known that in this process they have failed. The celebrated Duhamel and his contemporaries failed in the same way. From these and other instances, the author concludes that practitioners are wrong in their expectations of obtaining at once what can only be the result of time. He seems to infer that seedlings, apples or pears, for example, require some years and some cultivation, while they are passing from one stage of their infancy to another, before they can show their inherent qualities.

As proof of this conjecture, he instances the case of the fruit trees in the United States of America at this time. There, it appears, they have little trouble in procuring superior fruits from seed; and, that they have many excellent new kinds, their lists sufficiently testify. The cause of this he conceives to be, that the first imported fruits, which the colonists received from Europe 300 years ago, were, amidst the bustle of establishing and securing themselves in a new country, lost, from neglect or ignorance of the art of grafting; and that they only had recourse to seeds for perpetuating the kinds. These seedlings have passed through several generations, and are now arrived at that period of their existence in which their inherent qualities are fully developed.

The Americans, M. Poiteau adds, attribute this to another cause, namely, that in proportion as their newly broken up lands are ameliorated by cultivation, &c. so, in like proportion, are the qualities of their fruit. It is a common saying in Virginia, that the fruits of such or such an orchard "begin to change for the better." But this can hardly be admitted; for though such circumstance may improve the quality, it cannot change the physical characters of fruit.

After noticing the fact proved by Mr Knight, F. H. S. that a crab, fecundated by the pollen of a good fruit, produces better kinds from seed than can be had from seeds of improved fruit, he proceeds to describe the method used by the Flemish orchardists to obtain new sorts, and which is given on the authority of M. Van Mons. The Belgians, he says, do not prefer the seeds of ameliorated fruit. When the seedlings appear, they do not, as others do, choose such only as are free from spines, having large leaves, and remarkable for the thickness and beauty of their wood; but, on the contrary, such as are most spinous, provided the spines are long, and well furnished with buds or eyes placed near together. This last circumstance they consider as an indication that they will soon show fruit. Individuals having such properties are grafted, apples on paradise, and pears on quince stocks, to hasten fructification.—The first fruits of these grafts are generally bad; but whatever they are the seeds are carefully saved and sown. The second generation, treated in like manner, begins to show improvement. Through a third and fourth the process is continued, till they arrive at a point which gives fruit worthy of being preserved. Peaches and apricots, treated in the same way, yield excellent fruit the third generation; apples require four or five, and the pear about six, transitions. This process, concludes M. Poiteau, is only an imitation of that of nature, exemplified in America.—*Annales Soc. de Hor. de Paris.*

RAILWAYS.

By a gentleman just arrived in this city, we are told, that in an interview with Mr Black, a member of the legislature of South Carolina on his way to Charleston, the following information was communicated. A company had been incorporated for constructing three rail roads. One of these was to extend from Augusta to Charleston; a second from Columbia, and another from Orangeburg to the same place. In two or three hours after the books were opened, three hundred thousand dollars were subscribed. No doubt was entertained that the whole stock would be immediately made up with avidity, as it was considered the best in the state. The cost of construction was $3000 per mile, and plenty of contractors were ready to engage for the performance of the work. The railways are to be of wood, and the iron on which the wheels are to run is already obtained from England at $62½ a ton. Live oak, cypress, and long leafed pine, are to furnish the sleepers. When these rot, they will take care to have provided stones from the upper country, brought down upon the rail road, to substitute in the place of the wood as it decays.

Mr B. said, that if the wood should last only ten, or even five years, they should consider it of little consequence, as they would thus have the means of giving it permanency afterwards. He was one of the stockholders, and had been to England to obtain information personally on the methods and advantages of internal improvement. A model of a rail road had been prepared in the neighborhood of Charleston, of about a mile perhaps in length, to put such a work to the test. The load for a horse was found to be ten tons. Five gentlemen had gone with him to visit this

model. On arriving at it, the six jumped into the car, and calling upon the boy to give them a ride, they had an opportunity of seeing how easily and smoothly the movement was effected. From Columbia to Charleston is 120 miles, and the toll for transportation is to be 25 cents on the bale of cotton from one place to the other. The present price of conveyance by a canal, through the same distance, is about a dollar and a half, so that the rail road, as soon as completed, will probably wholly supersede the canal, and make it of no use.—*Penn. Gazette.*

STATISTICS.

The Western Tiller contains a sensible and interesting paper on the population of the United States, in reference to the approaching census of 1830. The number of inhabitants in 1790, was 3,816,456, and calculated from the past ratio of increase, it will be at the next census, 12,520,500, giving an increase within these periods of 8,604,044. From this estimate the following important facts are deduced :—

The population of the United States has, in 40 years been trebled.

The states which in that time have received the greatest accession of numbers are New York, Ohio, and Pennsylvania.

That the middle and western non slave holding states, being New York, New Jersey, Pennsylvania, Ohio, Indiana, and Illinois, have, in the same space of time, multiplied their people more than five fold, and contain more than half the white inhabitants of the United States.

That the southern slave holding states, so called, Maryland, Virginia, North Carolina, South Carolina, Alabama, Mississippi, and Louisiana, have in that period, only doubled, and from nearly half, are reduced to less than one third of the whole population.

That in reference to the most important points of national policy, to protection of American industry the centre of power has been entirely changed.

BOSTON MECHANICS.

An elegant Fire Engine, made by that excellent mechanic and engineer, Mr W. C. Hunneman of this city, was recently exhibited in State street. It appears to unite strength, power, and beauty, in a degree equal, at least to any of those recently imported into this city from the south—and is much cheaper. We understand that it was made for the King's Navy Yard, at the Havana, and that it cost but $500—a sum not greater than that recently paid merely for repairs on one of our old Engines. The Engine made at Philadelphia, for the city cost $1200—and is put together with *fifteen* screws—the *Cataract* made in London with *thirtysix*—while this of Mr Hunneman's is secured with only *nine* screws—some evidence, we should think, of the superior simplicity of its construction.

Boston Statesman.

Oil from Sunflowers.—A very delicate oil, much used in Russian cookery, is expressed from the seeds of the sunflower, and is prepared by enclosing them in bags, and steeping them in warm water, after which the oil is expressed; this is actually as sweet as butter.—*Scotsman.*

Pears.—Pears may be grafted on stocks of the Mountain Ash and the Service Tree; both of which will grow and thrive where pear tree stocks would not. I have also seen apples grafted on quince stocks, and planted in a soil so wet that an apple could not live; but they are doing very well, and making exceedingly fine shoots.—*Rusticus in Urbe.* [Loudon's Magazine.]

The editor of the Wilmington (Del.) Advertiser, makes the following very liberal offer:

"To any farmer who is now, or may become a subscriber to this paper, by the first day of May, (planting corn time) that shall, the approaching season, raise from *one* acre of land, the greatest quantity of merchantable Indian corn, we will give a *Gold Medal valued at* $20, *a Silver Tankard of the same value, or the like amount in cash*, at the option of the person entitled to the premium."

We sincerely hope that the generous proposal of Mr Mendenhall, will be productive of good crops of corn to his subscribers—and of good crops of subscribers to his paper.—*U. S. Gazette.*

Resolution.—For a soldier to meet the enemy in battle, where leaden deaths are whizzing on every side, must require no faint resolution; for a lover to pop the question of questions to his deary, when his heart goes pit-a-pat, and his tongue threatens to prove recreant to its office, requires no every-day effort of resolution; for a toper to quit the beloved bottle, and endeavor to stem the strong tide of his hankerings, requires a mighty resolution—and many a man, having proved victorious for a moment, goes back again to "*treat resolution;*" but of all the situations in life requiring a determined, heroic and prodigious effort of resolution, that of getting out of a warm bed, in a keen cold morning, caps the climax—we mean one of those mornings when the windows are crusted over with frost, when your breath congeals on the sheets, when your fingers freeze fast to the door latch, and the very air itself seems stiffened with cold.—*Berkshire American.*

DEFERRED ARTICLES.

The following, intended for insertion last week were omitted by mistake.

Extracts from Governor LINCOLN'S *Message.*

RAIL ROADS.

The examinations and surveys, which were assigned by the Legislature to the direction of the Commissioners of Internal Improvement, have been completed since the last session, and plans of proposed routes for *Rail Roads* from Boston to Providence, and from Boston to the Hudson River, with estimates of the cost of construction, in detailed Reports, will be submitted to your consideration. The reports will exhibit distances, preferences of location, difference in estimates of expense, and comparative advantages from occasions of business, *upon every direction of way which has justified examination*, and no reasonable ground of inquiry will remain, to occasion delay, in determining the manner and time of proceeding to the work. Every passing day bears witness, that for want of facilities to intercommunity between the interior and the capital of the State, the most serious diversions of trade are taking place, to other markets. Already, hundreds of tons of merchandize have been carried from the warehouses of a neighboring government, through a new channel, into a central and populous district of the Commonwealth.

By this channel, also, a direct trade in lumber has commenced with the State of Maine, and in goods with the city of New York, from either of which places, water conveyance, fifty miles inland into Massachusetts, is at half the cost of land carriage from Boston to Worcester only. The occasion of business along this line of artificial communication has been estimated to require, for the next year, the constant employment of at least *twenty boats of a tonnage of from* 20 *to* 30 *tons each.* It is not, however, to counteract the success of this, or of any other enterprise, that different projects are to be undertaken. They all tend to the improvement of the condition of the country. Multiply them, and additional capacities are afforded to employ and sustain an augmented population.

AGRICULTURAL SOCIETES.

The acts for the encouragement of Agriculture and Manufactures will expire, by their limitation, on the 20th February next. The question of continuing the patronage of the government to those important interests, *through the agency of the Agricultural Societies*, will, therefore at this time, require decision. Before the next Legislature, the usual and convenient season for issuing proposals of premiums, for the current year, will have passed, and without the aid of Government, it may be feared that many of the Societies will be unable to hold their customary Exhibitions. To those who have had opportunities to witness the certain and beneficial influence of the bounty which has been distributed by these Institutions, it would be matter of regret that it should now cease. It has diffused a spirit of improvement from the Treasury Office to the remotest parts of the Commonweaith. No public bestowment was ever more faithfully applied, and none will be found to have made richer returns to the source from which it was derived. As a measure of political economy, it has yielded, annually, an hundred fold its amount in the increase of taxable capital.

FROST WORK.

We have seen and heard of considerable damage accruing to fruit and forest trees by accumulations of ice on their slender branches. Peach trees in particular, have been pruned in a most unmerciful manner, by that mischievous personage, vulgarly called Jack Frost. The damage, however, from this cause, has not, we believe, been so great near the sea coast, as at some distance in the interior. The Lancaster Gazette, of the 13th inst. says, "vast numbers of trees, of all descriptions, have been broken, and in many instances ruined, by the weight of the ice collected on their branches. Peach trees have suffered particularly, and some of the beautiful elms which adorned our streets have fallen victims amidst the general havock. In the neighboring towns, we learn, the damage to trees has been equally extensive. The injury done to young growths of wood is also very great. Some of the roads through the woods in the neighborhood are rendered impassable by the fallen trees. In Sterling and Princeton, we are informed the ice collected on the trees much heavier than here. Mr Manassah Willard brought to our office from Sterling a few very small branches of an apple tree, on which the ice had collected to the thickness of two inches. He also showed us a specimen of the general appearance of the fields in his neighbordood. On a few, say twenty or thirty speres of grass a solid mass of ice was formed, exhibiting the appearance of a cluster of grapes, and weighing three or four pounds.

FOR THE NEW ENGLAND FARMER.

ICE HOUSES AND REFRIGERATORS.

DEAR SIR—Col. PICKERING sent me the accompanying pamphlet on Ice Houses and Refrigerators, for examination, and if I concurred in opinion with him, desired that I would send it to you for republication. I think it might be very useful. Our butter is brought to market in a sad state in summer, and it makes me blush when I reflect, that for more than 30 years the Philadelphia market has been supplied with it packed in ice, and since Mr Moore's publication, in Refrigerators. I. P. DAVIS, Esq. imported one from Philadelphia, some years since, with the hope that it might be adopted here.

The republication of this tract, in the N. E. Farmer, would, I think, be the most effectual means of exciting our farmers to imitate those of Pennsylvania. I am, dear sir,

Respectfully yours,

Boston, Jan. 20. J. LOWELL.

An Essay on the most eligible construction of Ice Houses; also, a description of the newly invented Refrigerator, being a simple and cheap machine, by the use of which fresh provisions, butter, liquids, &c. may be cooled and preserved for family uses in the heat of summer, or taken to market in as good condition as in the winter season.

Agreeably to an intimation given the public some time since, I shall now endeavor to give some practical directions for the construction of *Refrigerators*, and (as being connected therewith) also attempt an investigation of the theory and practice of the art of preserving ice through the summer.

I stated in a publication which circulated through several newspapers in the United States, that I had no pretensions to the discovery of new principles in the construction of the Refrigerator. The particular mode of applying some before known and understood, is all I claim as my invention; the utility of which has been fully proved during the last summer.

What I have to observe on the keeping of ice is merely an attempt to carry improvements already begun a step further than I have yet heard of. I have apprehended the reason why the art has not progressed faster, is because no one has yet fully investigated the principles upon which it depends; or, if this has been done by individuals, they have not favored the public with a knowledge thereof. This is my present object, and for reasons which will hereafter appear, I prefer going through it, before I enter on the subject of Refrigerators.

In treating this subject, it will be necessary to lay down certain positions relative to heat; some of which have not been well understood until very lately. All that I shall offer, have, however, been fully established by actual experiment. And in order to be as concise as possible, I shall avoid referring to the different writers who have published those valuable discoveries to the world.—Philosophical readers will know where to look for them, and those of a different class, it is presumed, will not wish to be troubled with such references or quotations.

Water is converted into ice at the temperature of 32° of Fahrenheit's Thermometer; and as long as any water remains in contact with the ice, the temperature of the ice will remain nearly stationary, but when the water is all frozen, the ice will gradually give out its heat to the incumbent atmosphere, until it acquires the same temperature. Ice exposed to an atmosphere at any temperature above 32°, or, if placed in contact with any substance above that degree of temperature, will, in either case be melted. The temperature of the earth a few feet below the surface in this climate, is generally found to be between 50 and 55°. If, therefore, a pit be sunk in the earth and filled with the coldest ice, (which may sometimes be obtained as low as 10° by removing it from the water and exposing it to a very cold atmosphere,) the consequence will be, that the earth will give out heat to the ice, until the temperature of the mass is raised to 32°; the process of melting will then commence, and continue to go on, as long as ice remains. But this process will not be as rapid as those who are unacquainted with the subject might imagine: it would seem, that as melting ice is always found to be at the temperature of 32°, that after the mass becomes raised to that degree, the smallest addition of heat, would immediately convert the whole into water; but this is not found to be the case; to prevent it, one of the many wonderful properties of matter interposes; and which only enables us to preserve ice at all. This is the difference between water and ice in their *capacities for heat*. As I would wish to be clearly understood by every class of readers, and as I may probably have occasion to repeat this term, it will perhaps, be proper to give a definition of it. The capacity for heat which a body is said to possess, is, its propensity or power of imbibing and retaining a greater or lesser quantity of that fluid, and at the same time appear to be of the same temperature as a given standard, which may contain a much greater or smaller quantity. Thus in the subject under consideration, the capacity of water for heat, is greater than ice; it being found by experiment, that ice at the temperature of 32°, requires the addition of no less than 146° of the same scale, or thereabouts, to reduce it to water. To elucidate the subject still further, let a pound of water at the freezing point (to wit) 32°, and a pound of ice at the same temperature, be put in situations where they will both receive an equal quantity of heat; when the ice is all melted, it will be found that the water has acquired 146° of heat, and of course will be at 178°. Or take a pound of water at 178°, and a pound of ice at 32°, put them together and cover them in a fit vessel, the ice will be melted and the mixture will be 32° or very nearly.

It appears then, that ice at 10°, deposited in a pit as before mentioned, and being in this solid state capable of conducting heat, must receive a sufficient quantity to raise the whole mass 22°, before any will be melted; when the melting process commences, it will cease to be propagated to the internal parts, because all that is received at the surface, will go to supply the increased capacity of the water; and this will be produced in direct proportion to the heat received. The whole quantity requisite to melt all the ice, being just as much as would raise the temperature of the same weight of water 178°. The greater the quantity of ice, the longer it will be in melting, because, there will be less surface in proportion to its weight, and experience has proved, that the quantity may be so great, as not to be all melted during a whole summer, in this situation.

It seems then, our whole business is to guard against the introduction of heat; and in order to take effectual measures for this purpose, it is necessary to be acquainted with, and attend to, the following principles. That heat is transmitted with more difficulty through some substances than others; that it passes through fluid mediums, by transportation, or the interchange of particles; and not from one particle to another, as in solid bodies. The capacity of air for retaining moisture is greatly increased by heat. The power of air to conduct heat is increased more than four fold by moisture. An unequal distribution of heat in fluids will always produce currents or interchange of particles; in general those of the highest temperature will rise to the surface; there is, however, an exception to this rule in water; between the temperatures of 40° and 32°, that fluid is more expanded than at temperatures a little higher, and consequently those particles which receive a small additional heat, will descend. To this extraordinary property in water, is to be ascribed some of the most wonderful phenomena in nature; but does not affect the subject under consideration. Substances which transmit heat freely, such as the metals, are called conductors of heat; and those through which it passes with difficulty, such as wool, fur, &c. are called nonconductors; and they are called good or bad conductors, or nonconductors, agreeably to their degree of conducting power.

(To be continued.)

From the Mass. Agric. Repository.

The Caledonian Horticultural Society in 1817, sent a deputation into the Low Countries and France to ascertain what improvements had been made in Horticulture or Gardening, during the twenty years in which intercourse had been cut off between Scotland and the Continent by that scourge and disgrace of human nature, war. It was a most praiseworthy example, and the reports of that committee have been published this year, 1823, in an octavo volume full of interesting matter in relation to Gardening, to fruits, and orchards. We shall only have time and room for the insertion of some short articles.

At Bruges in Flanders, proverbially the seat of the most improved agriculture, the committee on the 12th of August, make the following remarks: "In the course of our evening walk, we were attracted by a novel appearance in husbandry, the labors of the seed time and harvest seeming here to be united and contemporaneous. We entered a fine field of luxuriant rye, part of which remained uncut, but a large proportion had been cut down this morning (August 12th.) The crop had been carried aside; well rotted dung had been pretty liberally laid on the stubble; the Flemish plough was now at work: and to complete the picture of industry, and expedition, a man was actually engaged in sowing turnips on the same portions of the ploughed fields from which the rye crop had been reaped in the morning." This example ought not to be lost upon us. Our sun is much more powerful, and our vegetation more rapid than in Flanders. We know that some farmers do raise their second crops with us; but may we not carry this system much farther? We certainly can do it, by limiting the extent of our cultivated grounds, and bestowing greater labor on the quantity we do cultivate.

PROFESSOR VAN MONS OF BRUSSELS.

The Caledonian committee above mentioned, visited the nurseries of this active and intelligent horticulturist. He is Professor of Chemistry at Louvain, but has turned his attention very exten-

sively to the improvement of fruits, principally on the plan of Mr Knight, by raising new varieties. Of new varieties of seedling pears, raised chiefly by himself, and Monsieur Duquesne, of Mons, he considers that his collection contains about 800; being asked by the Committee, whether he meant that they were all good, he replied, that there were *that* number worthy of preservation. We must, however, put down a considerable portion of these as favorites from paternal regard, for we do not find that the London Horticultural Society to whom he has sent his best samples, have as yet admitted more than half a dozen into the catalogue of good fruits. Still his zeal is worthy of great praise. Our old fruits are running out, they are subject to constantly increasing diseases.—They must have been all *first* obtained by seedlings, and when a good variety was thus procured, it was propagated by grafts. Thus it has been with our Seckle pear, the only known excellent pear ever produced in the United States. It is now in every good garden. But the present age is not content with raising one good sort in a century. It is the fashion to try the powers of nature, and the next generation will see not only a greater variety, but probably enjoy much better kinds than any age which has gone before them.

SWEET POTATOES.

The sweet potato (Convolvulus Batatas) has been of late introduced into culture at Paris, and sent to that market for sale, and has been strongly recommended by Mons. Lelieur in a memoir on that subject. Neither the soil, nor climate of Paris is half as well calculated for this plant, as those of the vicinity of Boston. All the counties of the Old Colony, part of Middlesex, and some of the warm spots in Hampshire are excellently adapted to it. In Worcester and Berkshire it would probably not succeed, except in some favored spots; but if the horticulturists of Paris have waited 200 years since they were introduced into Spain, it is not surprising that we have so recently brought them into experiment.

A PHENOMENON IN GRAFTING.

At Brussels, the Committee of the Caledonian Horticultural Society witnessed one of the most extraordinary experiments in grafting; that of inserting *an entire tree*, on the stump of another. A neighbor, having in the spring season cut down an apple tree, about fifteen feet high, which Professor Van Mons considered a desirable kind, and a good healthy tree, he immediately selected a stock of *similar* dimensions, and cutting it off near the ground, placed on it by the mode of *peg* grafting, the foster tree; supported the tree by stakes; and excluded the air from the place of junction, by plastering it with clay, and afterwards heaping earth round it. The experiment succeeded perfectly; the tree becoming in the course of the *second* season nearly as vigorous as ever.

Now though we would not recommend this experiment, because it must be very precarious, and seldom useful, yet as being one of the highest triumphs of the horticultural art, we thought it worthy of a place in this Journal. The first thought of transferring from one tree to another a different species of fruit by a naked wooden stem, was undoubtedly bold and happy; but an attempt to transfer a *whole* tree in this manner, is certainly original.

By *peg* grafting it must be understood, that mode of grafting which can only be practised on trees of *exactly* the same circumference, the barks of which respectively will come into perfect contact. A hole is made in the stock, of an inch or more in depth, and the inserted tree or scion, is pared away so as to fit exactly the hole so made. The surfaces of the bark of each are then cut off smoothly, so as that the bark of the inserted tree will fit exactly all round with that of the stock. It is indispensable, that the liber and alburnum, that is the inner bark and the white wood of each tree, should exactly meet. The experiment was more curious than useful, but as a fact in natural history, it is deserving of notice. Few men would probably succeed in the attempt, but that it *can* be done in *any* case, almost staggers our faith; yet the authority is very respectable.—Ed.

RECEIPT FOR DESTROYING CATERPILLARS, USED BY THE SOCIETY OF CHRISTIANS CALLED SHAKERS, AT CANTERBURY, N. H.

"Take equal parts of spirits of turpentine, and train oil; apply them by means of a swab fixed on a pole, commence the operation in the spring, (we suppose on the first appearance of nests) when these devouring insects begin to appear, and *repeat the operation once a week*, till the trees are in blow, and very few will escape with their lives." Signed F. W.

The head of the Family.

We must express our admiration of this receipt, not because of its novelty, for either of the ingredients would be quite sufficient to kill the insects, as will common soap suds from every Monday's wash, *most thoroughly*, without train oil or spirits of turpentine; but we admire it, as a specimen of the practice and industry of these citizens. If our farmers would only follow *that part* of the receipt, which requires *a weekly attention*, for three successive weeks, it is immaterial whether they use spirits of turpentine, or train oil, or soap suds, or the brush, proposed by Col. Pickering, the evil would be cured at *any* rate. The great difficulty is the neglect to do *anything*, till after the Caterpillars have covered the trees with nests. Then the labors of the sluggard commence, and *one* tree, (let his receipt be ever so perfect and powerful) will cost as much time and labor as ten trees would have required three weeks sooner. If our farmers would only adopt *that portion* of the receipt, which requires a *weekly attack* on this enemy, the evil would soon cease, and in ten years we should scarce see a caterpillar in the country. by this course continually pursued, we have so much reduced the labor, that we have not one fourth part of the number we had three years ago.—Ed.

BEAUTY OF TREES.

What can be more beautiful than trees? Their lofty trunks, august in their simplicity, asserting, to the most inexperienced eye, their infinite superiority over the imitative pillars of man's pride; their graceful play of wide spreading branches, and all the delicate and glorious machinery of buds, leaves, flowers and fruit, that, with more than magical effect, burst from naked and rigid twigs, with all the rich, and heaven-breathing delectable odours, pure and fresh, and animating, pouring out spices and medicinale, brilliant and unimaginably varied colors, under essences; and making music, from the softest and most melancholy under-tones to the full organ peal of the tempest. We wonder not that trees have been the admiration of men in all periods and nations of the world. What is the richest country without trees? What barren and monotonous spot can they not convert into a paradise? Xerxes, in the midst of his most ambitious enterprise, stopped his vast army to contemplate the beauty of a tree. Cicero, from the throng, and exertion, and anxiety of the forum, was accustomed, Pliny tells us, to steal forth to a grove of plane trees to refresh and invigorate his spirit. In the Scapæn groves the same author adds, Thucydides was supposed to have composed his noble histories. The Greek and Roman classics, indeed, abound with expressions of admiration of trees and woods, and with customs which have originated in that admiration: but above all, as the Bible surpasses, in the splendor and majesty of its poetry, all books in the world, so is its sylvan and arborescent imagery the most bold and beautiful. Beneath some spreading tree are the ancient patriarchs revealed to us, sitting in contemplation, or receiving the visits of angels; and what a calm and dignified picture of primeval life is presented to our imagination at the mention of Deborah, the wife of Dapidoth, judging the twelve tribes of Israel, between Ramah and Bethel, in Mount Ephraim beneath the palm tree of Deborah. The oaks of Bashan, and the cedars of Lebanon, are but other and better names for glory and power. The vine, the olive, and the fig tree, are made imperishable emblems of peace, plenty, and festivity. David in his psalms, Solomon in his songs and proverbs, the Prophets in the sublime outpourings of the awful inspiration, and Christ in his parables, those most beautiful and perfect of all allegories, luxuriate in signs and similes drawn from the fair trees of the east.

SOURCES OF DISEASE.

The effluvia of rotten substances are often unsuspected causes of disease. The farmer, therefore, should be careful that he does not breathe in the steams of his old dunghills more than is necessary. And the greatest care should be taken to remove or cover with good loam all the filth of the house, hog pen, &c. Scattering quick lime over substances which emit unwholesome vapors will correct the evil. Spoiled meat, vegetables rotting in a cellar, &c. are often harbingers of disease. The compound of lime and chlorine, called bleaching powder, is still better than quick lime as a remedy against the evils arising from putrescence. See New England Farmer's Almanac, p. 32.

From the Christian Register.

GEOLOGY FOR SCHOOLS.

Numerous reasons urge the introduction of Geology as a branch of common education.

1. It is nearly allied to Geography, and like that, is calculated to enlarge the mind, and extend its views of the works of our Creator.

2. It is an interesting science. It opens to our view a new world, and presents to us many objects of beauty and of interest before unnoticed.

3. It is among the grandest of the sciences.—It leads us to view with increased admiration, the towering mountain and awful precipice, and acquaints us with those features of the earth, which never fail to excite ideas of sublimity in the dullest mind.

4. It gives new interest and increased utility to our journeys and our walks. A person, with the slightest knowledge of this science, never

passes from one country or place to another, without finding much to admire and to increase his store of knowledge.

5. It furnishes a healthful and instructive amusement to the young. Wherever it has been introduced into schools, the pupils have devoted more or less of their pastime to examining and collecting specimens from the minerals around them.

6. It teaches children to be observing. A thousand objects before unnoticed press upon their view, and their imagination and taste are immediately put upon the alert and called to a useful exercise in discriminating between the beautiful and the deformed.

7. Wherever it has been introduced it has led to the discovery of deposits of useful minerals before unknown, and has already increased to a vast amount of individual and national wealth; and if generally understood could hardly fail of opening many more sources of industry and of wealth.

8. It would tend to forward scientific and accurate geological surveys as the foundation of Geological maps, and prepare the public to profit by them.

9. No science is more practical. It acquaints farmers with the nature of their soils, and the methods of improving them; civil engineers with the materials for constructing roads, canals, railways, dams, wharves, &c. and the proper method of combining them; artists with the origin and nature of their paints, and the miner when and how to extend his researches, and points him to a reward for his labors, and cautions him against abortive attempts.

10. It is favorable to morals. The more innocent and useful amusements are scattered around the young, the less time and disposition they will have, to pursue those which are pernicious or useless. Besides, few subjects are better fitted to show the power and wisdom of Him who weighed the mountains in scales, and the hills in a balance.

11. It is easily acquired. The features of this science are not only striking and grand, but they are few and simple, and exactly fitted to the juvenile mind. And by the aid of specimens with appropriate descriptions, its general principles are more easily and readily understood, than of any other science which is taught.

12. It is necessary. Without it gazeteers, and common journals of travels, cannot be understood: and a person is liable to find himself ignorant of the most common topics of conversation in the society he will frequently meet.

AGRICOLA.

NEW ENGLAND FARMER.

BOSTON, FRIDAY, JAN. 23, 1829.

RAIL ROAD REPORT.

The Report of the Board of Directors of Internal Improvements on the practicability and expediency of a Rail Road from Boston to the Hudson River, and from Boston to Providence, was submitted to the Legislature on the 16th inst. together with the reports of the engineers, employed by the board, containing the results of their surveys and estimates. These interesting and very important documents have been printed in a pamphlet of more than 200 pages. It would not be possible to give sketches of the contents of this pamphlet sufficiently in detail to be intelligible and useful without exceeding our limits. Besides, a summary view of the reports, &c, has been printed in the Boston Daily Advertiser of the 17th inst. and occupies nearly three closely pointed columns of that paper. We shall therefore, at present, merely copy the closing remarks in the Report of the Directors, which, together with the matter which precedes it, are as favorable to the great objects contemplated as could be hoped for, or even wished by the friends to internal improvement.

"The Directors therefore respectfully recommend to the Legislature to adopt measures for the construction of rail roads on the general routes to Albany and to Providence which have been pointed out, leaving the precise location to be selected by the persons who shall be entrusted with the execution of the work. As however the execution of the whole of these works would necessarily occupy a period of three or four years, and as a much safer judgment may be formed, of the cost and usefulness of the work, and of the comparative advantages of the mode of construction here recommended, after an experiment shall have been made on a part of one of the proposed routes, it is recommended that the operations of the first year shall be principally limited to the eastern section of the western route, and that such portion of the route only, beginning from Boston, shall be undertaken within the year, as it may be thought will be nearly completed. In pursuance of these views they recommend that a board of competent individuals be formed, with authority, subject at all times to the control of the Legislature, to employ the necessary engineers and agents, and take all necessary measures, for constructing the aforesaid rail roads to Albany and to Providence, and to raise the necessary sums of money from time to time, by loans in the name of the state, on stocks, bearing 4½ per cent interest, payable quarterly, and reimbursed at any term from 15 to 20 years at their discretion." This able and elaborate report has the signatures of the following gentlemen, viz. Levi Lincoln, Nathan Hale, Stephen White, David Henshaw, Thomas W. Ward, Royal Makepeace, George Bond, William Foster, Edward H. Robbins, Jr.

SAGACITY OF THE HORSE.

Having recently noticed in a foreign paper, that a man falling from his horse into the river, was seized by the animal and safely brought ashore, reminds us of a letter received from Steubenville, Ohio, in June last, addressed to a son of the editor, then in the village. "Joseph L. returned home last evening, and this morning related to me, with tears in his eyes, a most remarkable and almost incredible circumstance. Arriving at a creek, which the late heavy rains had rendered it hazardous to swim, he dismounted from his horse, and attempted to cross the creek on a tree that had fallen across it, holding the bridle in his hand, and compelling the horse to swim alongside. After he arrived about midway, the current became so rapid that *Natty* could not keep his course, but broke from him, and Joseph fell from the tree into the creek. He caught by a limb, and the horse swam to the shore, and then turned round to see what had become of his rider. His situation, consequently, was of great danger, as he found it impossible to regain the tree. He was eight or ten miles from any house, and became much alarmed, as his strength was fast failing. At this critical moment, *Natty* plunged into the creek on the opposite side of the tree, swam around it to where Joseph was, stopped quietly until he mounted him, and then swam to the shore with Joseph on his back! This story, as incredible as it may seem, you will believe to be true. What a noble animal! and how much the more must you now prize him.—*Broome Republican.*

HONEY.

Is there any man who has so little of a "sweet tooth in his head" that he will pass by a cup of honey, leaving it like an indifferent thing? It is not like one of the deleterious inventions of man—it is not like molasses, that a yankee loves in his youth, but swallows in a more fiery shape as he grows old—but the taste for honey is not to be lost, nor is there danger in its indulgence. Here is a field for taking advantage of the industry of bees, that we neglect in New England; and it is a neglect of self-interest—(of which our enemies would in other things be slow to accuse us.) The trouble of keeping ten swarms of bees is not equal to that of keeping one dog, be he

> "Mongrel, puppy, whelp, or hound,
> Or cur of low degree."

and the profit from ten swarms would put in the farmer's pocket fifty dollars a year,—whereas Towser and Tyger, or Wolf or Lion, would cost twenty-five for food, and tricks and lawsuits for worrying sheep. The dog also, if he be quarrelsome, will make his master cultivate his angry passions—for who will not *back* his *dog?* or who will not fight for him?

But what different lessons would be set by the bees; industry, order, subordination, the mathematics—and defence, even to death, of their homes. We hope to see the bees in proportion to the flowers which are suffered to waste away like an unmarried beauty—raising admiration—but leaving no profitable legacy as a trace of brief existence.—*Boston Evening Gazette.*

ESKIMAUX DOGS.

It is stated in the Journal of Capt. Parry's expedition to discover a northwest passage, that "when the surface of the snow is good for travelling, six or seven dogs will draw from eight to ten hundred weight, at the rate of seven or eight miles an hour for several hours together, and will easily, under these circumstances, perform a journey of fifty or sixty miles a day."

ADVANTAGES OF GOOD ROADS.

Dr Anderson, in his *Rural Recreations* states, that "Around every market place you may suppose a number of concentric circles drawn, within each of which certain articles become marketable, which were not so before, and thus become the sources of wealth and prosperity to many individuals. Diminish the expense of carriage but one farthing, and you widen the circle; you form as it were a new creation, not only of stones and earth, and trees and plants, but men also; and what is more, of industry and happiness."

BAD ROADS AND BARBARISM.

The Abbe Raynal remarks, "Let us travel over all the countries of the earth, and wherever we shall find no facility of trading from a city to a town, and from a village to a hamlet, we may pronounce the people to be barbarous; and we shall only be deceived respecting the degree of barbarism."

Fat Beef.—An ox seven years old, which weighed 2100 lbs. was offered for sale in the Newport market, a few days since. It is said this was the fattest beef ever raised in Rhode Island. The ox worked on a farm in Portsmouth, during the spring.

We can tell a *bigger* story about beef than this. Col. Asa Stebbins, of Deerfield, a few years since fatted an ox which at seven years old, was killed, and sold at the Boston market, and weighed 2120 lbs.—*Greenfield (Mass.) Gazette.*

Chinese Flat Peach.—This most curious of fruits, introduced from China by the Horticultural Society of London, and figured and described in their Transactions, may be considered an anomaly of its species. The fruit is described as 2½ inches wide, and only 11-16ths of an inch through from the stem to the outer side, and the existence of such a fruit has always been doubted, until actually received from China. Both the external appearance of the fruit and the pit, so singularly compressed in its form, would seem to be the result of art, rather than of nature. It is represented as being an early peach. About 20 trees are in possession of the author, which have been inoculated from the original, introduced by himself.—*Prince's Treatise on Horticulture.*

England.—The United Kingdom of G. Britain and Ireland contains 73 millions of acres, of which at least 54 millions of acres may be considered capable of cultivation. Half an acre with ordinary cultivation, is sufficient to supply an individual with corn, and one acre is sufficient to maintain a horse; consequently the United Kingdom contains enough land for the sustenance of 120 millions of people, and 4 millions of horses.—*Edmunds on Political Economy.*

From the *Journal of the Times*, an excellent paper, lately established in Bennington, Vt. we have before us, "A Discourse delivered at Montpelier, October 16, 1828, on the formation of the Vermont Temperance Society. By Daniel O. Morton, Pastor of the Congregational Church in Shoreham." From a hasty perusal, we cannot hesitate to rank it among the very best productions which the subject of intemperance has elicited, and we hope it will obtain a wide circulation. Our limits, this morning, afford us room but for a single quotation —one containing a large amount of plain truth and good sense in a small compass. Hereafter, we shall be liberal in our extracts.

"Days of public convocation are an efficient cause of intemperance. Of this kind are military trainings and reviews, the raising and moving of buildings, and the celebration of American Independence. On all these occasions, liquors abound, and the temptations to intoxication are multiplied. The man of hoary locks, already bending over the grave, is heavy laden with ardent spirits; and the beardless boy, too, must drink, and perhaps take the name of God in vain, to convince us that he is a man. On days of military parade more proficiency is made in vice than in the science or art of war. Under the influence of a strange infatuation, some, who are generally sober men, consider it allowable, on these occasions, to drink deep and hard. Whether any become soldiers or not, many are trained up to habits of intemperance. A short period of service, in time of war, under experienced officers, would better prepare men to fight their country's battles, than the militia trainings and musters of a whole life.

"It is much to be regretted that the anniversary of our nation's birth should so often be made a day of rude mirth, of vain hilarity, and intemperate drinking. Do we thus thank the God of our fathers for his benign smiles and powerful aid, during the perilous struggle of the revolution? Better that American Independence be never celebrated than that it should be trumpeted with puerile boastings and drunken joys!"

Manufactories in Massachusetts.—There are 235 incorporated manufactories in this state. A large proportion of them manufacture cotton, wool, and iron; besides these there are incorporated companies for the manufacture of glass, hats, leather, wire, files, lead, duck, pins, soap-stone, cordage, salt, calico, brass, copper, lace, umbrellas, linen, hose, ale and beer, type, cotton gins, cards, glass bottles, paper, lead pipe, &c. The oldest incorporation is in 1794, of a woollen manufactory in Newburyport. There are large number of manufactories besides these, in Massachusetts, not incorporated.—*Columbian Reporter.*

The last No. of the *Quarterly Review* contains articles on the following subjects:—Works and Character of Paley—Franklin's Second Journey to the shores of the Polar Sea.—Hexaglot Georgics—Lodge's illustrated Biography—Cultivation of Waste Lands—Isaac Comnenus—Memoirs of General Miller—Indian Stamp Act—Salmonia, or Days of Fly Fishing—The Roman Catholic Question—Ireland—List of New Publications.—Published quarterly by Wells & Lilly, Court street, Boston, at $5 per annum.

The 95th No. of the *Edinburgh Review* contains articles on the Life and Voyages of Columbus—Institution of Castes—Indian Society—Athenstone's Fall of Nineveh—Lanzi's History of Painting—Hallam's Constitutional History of England—Remains of Babylon—Modern Cyrenaica—London Uuiversity and King's College—Library of Useful Knowledge—Outlines of General History.

Canary Birds.

For Sale, a few copies of the New and Complete Canary Bird Fancier, containing a variety of useful information, by which the admirers of those beautiful Birds may be instructed in their management while breeding, and their treatment when diseased; with useful Hints to the breeders of Mules. From the latest London Edition.—Price 25 cts. Just received at the

Agricultural Warehouse.

4t No. 52 North Market Street, Boston.

Seeds for Country Dealers.

Traders in the country, who may wish to keep an assortment of Garden Seeds for sale, are informed they can be furnished at the New England Farmer office, No. 52 North Market street, Boston, with boxes containing a complete assortment of the seeds mostly used in a kitchen garden, on as favorable terms as they can be purchased in this country, neatly done up in small papers, at 6 and 12 cents each—warranted to be of the growth of 1828, and of the *purest quality*. ORNAMENTAL FLOWER SEEDS will be added on the same terms, when ordered, as well as PEAS, BEANS, EARLY WHITE SWEET CORN, &c, of different sorts.

☞ The Seeds vended at this establishment, are put up on a new plan this year, each package being accompanied with short directions on its management, and packed in the neatest style.—Traders are requested to call and examine for themselves. eptf Jan. 23.

The Hunterdon Gazette Establishment for sale,

At Flemington, Hunterdon county, New Jersey, on reasonable terms. Address the Editor, (post paid) at Flemington, New Jersey. 3t Jan 2

For Sale,

At auction, on a farm a few rods from the Rev. Mr Greenough's Meeting-house, in the westerly parish of Newton, most of the Stock on said farm, consisting of Cows, Heifers, Calves, partly of the Durham short horned breed; one Bull two and a half years old, got by the celebrated Bull Denton, out of a half blood cow; one full blood Merino Buck; two full blood Merino Ewes; one Colt, seven months old, sired by the well known imported Horse Bellfounder; one Horse five years old, large and powerful; one Mare, kind and good in any harness; several Geese, partly of the celebrated Bremen breed; Wagon, Ploughs, Cart, &c. &c.

Sale to take place on the premises, on Tuesday, the 27th day of January current, at 1 o'clock, if fair weather; if not, on the first fair day. Jan. 17.

For Sale,

In the southeasterly part of old Marlborough, a valuable Farm, containing about 120 acres, consisting of every kind of land that is desirable to the enterprising farmer, a large portion of which is of the first quality, having a constant stream of water running through it; and the land is so situated that a number of acres are capable of irrigation. On the premises is an upright two story House, with four rooms on the floor, in good repair; a large Barn, 80 by 30, and in common seasons is filled with good hay. There are also on the farm, good Orchards, a part of which are in their prime; together with an abundance of Wood, the best of white oak, fit for wheelwrights' use, or for ship timber. There are few farms capable of more improvement, or which can be carried on at less expense. The place will be sold at a fair price, with or without the stock and utensils, at the election of the purchaser. The payments made easy and accommodating, and possession may be had on delivery of the deed. For further particulars, please inquire of WILLIAM DRAPER, Esq. of Marlborough, of BENJAMIN WELD of Roxbury, or of SAMUEL H. WELD, on the premises, Jan. 16.

Two Heifers For Sale.

Two Superior Heifers, with calf, mixed between the Denton and Ceelebs breed. Both of which took a premium at the late Show in Brighton.—Inquire of Daniel Chandler, Lexington, or at the counting room of the New England Farmer, Agricultural Warehouse, Boston. 3t Jan. 2, 1829.

PRICES OF COUNTRY PRODUCE.

		FROM	TO
APPLES, best,	barrel.	3 00	3 75
ASHES, pot, first sort,	ton.	130 00	135 00
Pearl, first sort,	"	130 00	135 00
BEANS, white,	bushel.	80	1 12
BEEF, mess,	barrel.	10 00	10 50
Cargo, No. 1,	"	8 50	9 00
Cargo, No. 2,	"	7 50	7 75
BUTTER, inspected, No. 1, new,	pound.	14	16
CHEESE, new milk,	"	7	9
Skimmed milk,	"	2	3
FLOUR, Baltimore, Howard-street,	barrel.	9 00	9 12
Genesee,	"	9 00	9 25
Rye, best,	"		
GRAIN, Corn,	bushel.	63	65
Rye,	"	75	80
Barley,	"		70
Oats,	"	30	32
HOG'S LARD, first sort, new,	pound.		9
LIME,	cask.	85	90
PLAISTER PARIS retails at	ton.		3 00
PORK, clear,	barrel.	16 00	16 50
Navy, mess,	"	13 00	13 25
Cargo, No. 1,	"	13 00	13 25
SEEDS, Herd's Grass,	bushel.	2 00	2 50
Orchard Grass,	"		3 00
Fowl Meadow,	"		4 00
Rye Grass,	"		4 00
Tall Meadow Oats Grass,	"		4 00
Red Top	"		1 00
Lucerne,	pound.		50
White Honeysuckle Clover,	"		50
Red Clover, (northern)	"	9	10
French Sugar Beet,	"		1 50
Mangel Wurtzel,	"		1 50
WOOL, Merino, full blood, washed,	"	37	45
Merino, full blood, unwashed,	"	23	28
Merino, three fourths washed,	"	33	37
Merino, half & quarter washed	"	30	35
Native, washed,	"	26	28
Pulled, Lamb's, first sort,	"	40	43
Pulled, Lamb's, second sort,	"	25	30
Pulled, " spinning, first sort,	"	33	35

PROVISION MARKET.

CORRECTED EVERY WEEK BY MR. HAYWARD,

(Clerk of Faneuil-hall Market.)

BEEF, best pieces,	pound.	10	12 1-2
PORK, fresh, best pieces,	"	5	8
whole hogs,	"	5	6
VEAL,	"	5	6
MUTTON,	"	2	10
POULTRY,	"	8	10
BUTTER, keg and tub,	"	14	20
Lump, best,	"		20
EGGS,	dozen.	20	22
MEAL, Rye, retail,	bushel.		70
Indian, retail,	"		70
POTATOS,	"		50
CIDER, [according to quality,]	barrel.	2 00	3 00

MISCELLANIES.

We find the following lines in the Waldo (Me) Democrat, but know nothing of their origin.—*Bost. Adv.*

THE TIMES.

The times—the times—I say the times,
Are getting worse than ever;
The good old ways our fathers trod
Shall grace their children never;
The homely hearth of honest mirth,
The traces of their plough,
The places of their worshiping,
Are all forgotten now.

Farewell, the Farmer's honest looks,
And independent mein,
The tassel of his waving corn,
The blossom of the bean,
The turnip top and pumpkin vine,
The produce of his toil,
Have given place to flower pots
And plants of foreign soil.

Farewell, the pleasant husking night,
Its merry afterscenes,
When Indian pudding smoked beside
The giant pot of beans;
When lasses joined the social band,
Nor once affected fear,
But gave a pretty cheek to kiss
For every crimson ear.*

Affected modesty was not
The test of virtue then,
And few took pains to swoon away
At the sight of ugly men;
For well they knew the purity
Which woman's life should own,
Depends not on appearances,
But on the heart alone.

Farewell to all the buoyancy
The openness of youth,
The confidence of kindly hearts,
The consciousness of truth,
The natural tone of sympathy,
The language af the heart,
Now curbed by fashion's tyranny,
Or turned aside by art.

Farewell, the jovial quilting match,
The song and merry play,
The whirling of the pewter plate,
The many pawns to pay,
The mimic marriage brought about
By leaping o'er the broom,
The good old play of blind man's buff,
The laugh that shook the room.

Farewell, the days of industry,
The time has glided by,
When pretty hands were prettiest
At making pumpkin pie;
When waiting maids were needed not,
And morning brought along
The music of the spinning wheel,
And milkmaid's careless song.

Ah! artless days of innocence,
Your dwellings are no more,
And we are turning from the path
Our fathers trod of yore—
The homely hearth of honest mirth—
The traces of the plough—
The places of their worshiping,
Are all forgotten now.

* At a husking, "a kiss all round" is the reward for every red ear of corn—of course there is always a scramble for these passports to favor. The good natured girl generally contrives to throw such as she may find into the way of the rustic beau who is nearest to her.

Time is so precious an article that Providence gives it to us in the smallest possible portions, never yielding us two moments at once, but always taking away one when the other is bestowed.

Integrity.—Wit and understanding are trifles without integrity; it is that which gives value to every character. The ignorant peasant without faults, is greater than the philosopher with many: for what is genius, what is courage, without a heart?

Merit.—True merit is like a river, the deeper it is the less noise it makes.

Value of hereditary property.—It should be considered with respect to wealth, that the value of it is never truly known, but by him who has acquired it; so that when a provident but unwise parent submits to toil and hardship in order to leave an estate to his son, he only provides him something to waste and dissipate, but not to enjoy. The prodigal youth is even generally much less happy in spending the estate than the father in acquiring it; though the object of the father's toil has been to make the son happy in being exempted from toil. Besides, there are as great fortunes, and, perhaps, a greater number of moderate fortunes, in the hands of those who have acquired them as in those who have received them by inheritance; so that the chance of having a son *die* rich is perhaps as great when he has a good education, and has only been put in the way of providing for himself, as when he begins with that independence, which it should be the object of every one to possess.

Prosperity displays vice, and adversity is the touchstone of virtue.

Literature and Economy.—If a young man has a taste for literature, and virtuous and intelligent society, his economy will be a thing of course; because his pleasures will not be expensive, and not dependent on the caprice of fashionable and extravagant associates.

A woman never appears so truly amiable as in retirement; her virtues shine with double lustre.

Do not idly imagine that, by running to public places, you will have a better chance of marrying. If a woman is ever so beautiful, being seen too often makes her cheap in the eyes of men. She who is but rarely seen, men covet most to see, and her chance of being happily married is much greater.

A Wrestling Match.—A man lately undertook to wrestle with a half pint of Brandy. First, he *took Brandy down*, with great ease; but the day was won by Brandy, who took his antagonist down, and held him for the space of three hours! when he suffered him to rise.—*Berkshire American.*

A gentleman from Boston, on a visit to his friend in the country, speaking of the times, observed that his wife had lately expended $50 for a habit. His friend replied, "here in the country, we don't allow our wives to get into *such habits.*

A man with his wife and child, says the Newburyport Herald, in Newbury, Mass. on Saturday last, came very near suffocation, from a pan of burning coals, in their sleeping room. A peculiar noise brought some one to their room, where they were found in an insensible state—but resuscitated by exposure to the fresh atmosphere.

Assorted Seeds for Families.

For sale at the New England Farmer Seed Store small boxes of assorted Seeds for Kitchen Gardens. Each box contains a package of the following Seeds:

Early Washington Peas	Long Dutch Parsnip
Dwarf Blue Imperial Peas	Large Cabbage Lettuce
Late Marrowfat Peas	Long Green Turkey Cucumber
Early Mohawk Dwarf string Beans	Pine-apple Melon
	Long, or Round Watermelon
China Dwarf string and shell Beans	Nasiurtium
	Large White Onion
Lima, or Saba Pole Beans	Large Red Onion
Long Blood Beet	Curled Parsley
Early Turnip-rooted Beet	Flat Squash Pepper
Early York Cabbage	Early Scarlet Short-top Radish
Large late Drumhead Cabbage	White Turnip Radish
Cape Savoy Cabbage	Salsify
Red Dutch Cabbage *(for pickling)*	Early Bush Squash
	Early White Dutch Turnip
Early Horn Carrot	White Flat Turnip
Long Orange Carrot	Yellow Stone Turnip
White Solid Celery	Winter Crook-neck Squash.
Curled Cress	—
Early Cucumber	POT HERB SEEDS.
Early Silesia Lettuce	Thyme—Sage—Marjorum.

The above list, it will be seen, comprises all the common vegetables, besides several new varieties of recent introduction, and uncommon excellence. Every kind is warranted of the very first quality, as to freshness and purity. Each box contains directions for the management of the different sorts. Price $3 per box.

To the Public.

The subscriber would inform the public, that certain persons did, some time since, obtain a certain Patent Right, claiming for their improvement, a Reaction principle, or action two ways, vainly supposing they were about to alter one of the fundamental laws of mechanism, by gaining in time without a loss of power, or gaining in power without a loss of time. This foolish idea they attempted to demonstrate by constructing a Press for Hay, &c. with two fixed horizontal boxes, one on each end of a horizontal frame. In these boxes the hay or cotton was to be put, or stowed vertically, and the reaction power applied to both boxes at the same time, horizontally; thus they expected to press two bales with one and the same power, in the same time that it took to press one; but they failed in their purpose, both on account of reaction, and mode of stowing and pressing,—for it was found impossible to confine fibrous materials with bands, that are stowed and pressed at right angles with the stowing.

It is well known in Maine that Mr Moses B. Bliss, of Pittston, Kennebec county, has recently made an important and useful improvement in the construction of a Press for Hay and other fibrous materials, and secured to himself the extensive property of said improvement, by taking out Letters Patent for the same under the Seal of the United States, which property he claims, principally, from having made his box to revolve on trunions, which project from near the centre of its largest sides, so that it may be turned to an upright position for the convenience of filling and stowing, and then to a horizontal one for pressing.—The other part of his specification has nothing very particular in it, except in moving the machine by means of gear-work and a small cog-wheel affixed to the axle of a large pair of locomotion wheels. This Press Mr Bliss has had in successful use for many months, and it has been fully tested by those well qualified to judge of its merits, and met their decided approbation.—He has effected in this machine what has long been a desideratum, viz. to have a moveable press; and to have it moveable, it is necessary that it should be horizontal, and to have it horizontal, there must be a revolving box.

Why I would draw the attention of the public to the specification above, is, because the said persons have abandoned their press on the reaction plan, and imitated Mr Bliss in every particular except the revolving box, and are now attempting to palm off this imitation press under their credentials for a reaction power.

The public are advised to compare the specifications with the model now exhibiting. CALVIN WING.

Gardiner, Dec. 31, 1828. Jan 16 3t

Published every Friday, at $3 per annum, payable at the end of the year—but those who pay within sixty days from the time of subscribing, are entitled to a deduction of fifty cents.

Printed for J. B. RUSSELL, by I. R. BUTTS & Co.—by whom all descriptions of Printing can be executed to meet the wishes of customers. Orders for printing received by J. B. RUSSELL, at the Agricultural Warehouse, No. 52 North Market Street.